

**A METHOD AND APPARATUS FOR TEMPERATURE-CONTROLLED  
ULTRASONIC INSPECTION**

**ABSTRACT OF THE DISCLOSURE**

5           A method and apparatus for temperature-controlled ultrasonic inspection of an  
object. The temperature of a coupling medium between an ultrasonic transducer and  
an object under inspection is controlled to be at a predetermined temperature for  
which the attenuation of the ultrasonic energy in the coupling medium is reduced  
compared to the attenuation at an ambient temperature. This improves the efficiency  
10 of ultrasonic energy transport between the ultrasonic transducer and the object. The  
temperature of the object is controlled to simulate operating conditions more closely.  
An ultrasonic inspection system includes a temperature controller operable to  
maintain the temperature of the coupling medium and/or an object under inspection at  
a set temperature.